

Practice 3-2

Proving Lines Parallel

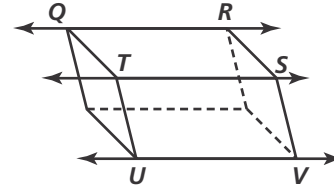
1. **Developing Proof** Complete the paragraph proof for the figure shown.

Given: $\angle RQT$ and $\angle QTS$ are supplementary.

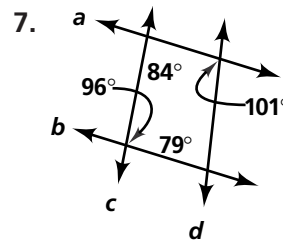
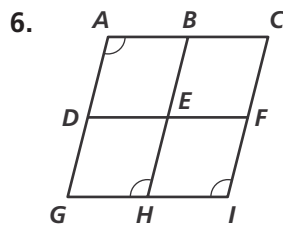
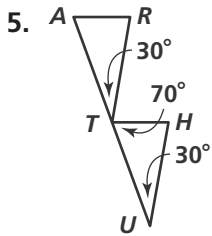
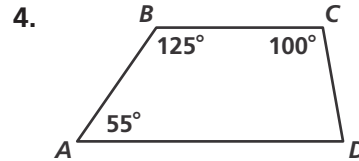
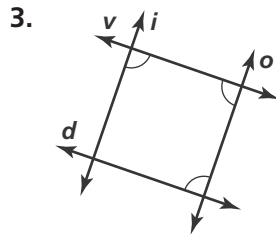
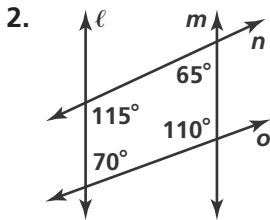
$\angle TSV$ and $\angle SVU$ are supplementary.

Prove: $\overleftrightarrow{QR} \parallel \overleftrightarrow{UV}$

Proof Because $\angle RQT$ and $\angle QTS$ are supplementary, $\angle RQT$ and $\angle QTS$ are **a.** $\underline{\hspace{1cm}}$ angles. By the Same-Side Interior Angles Theorem, **b.** $\underline{\hspace{1cm}}$ \parallel **c.** $\underline{\hspace{1cm}}$. Because $\angle TSV$ and $\angle SVU$ are supplementary, $\angle TSV$ and $\angle SVU$ are **d.** $\underline{\hspace{1cm}}$ angles. By the **e.** $\underline{\hspace{1cm}}$ Theorem, $\overleftrightarrow{TS} \parallel \overleftrightarrow{UV}$. Because \overleftrightarrow{QR} and \overleftrightarrow{UV} both are parallel to **f.** $\underline{\hspace{1cm}}$, $\overleftrightarrow{QR} \parallel \overleftrightarrow{UV}$ by Theorem **g.** $\underline{\hspace{1cm}}$.



Which lines or segments are parallel? Justify your answer with a theorem or postulate.



Algebra Find the value of x for which $a \parallel t$.

